

FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 1200 --- 2000 V
CURRENT: 0.5 A

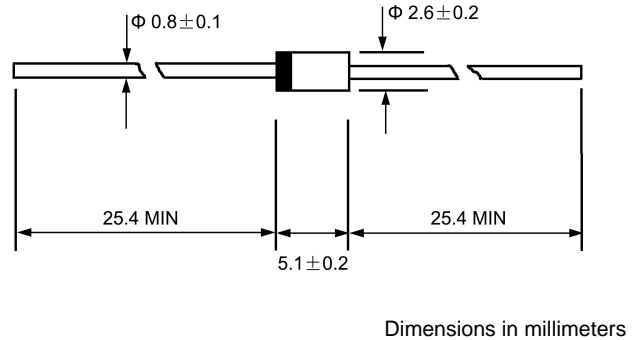
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon Alcohol, Isopropanol and similar solvents

MECHANICAL DATA

- ◇ Case: JEDEC DO--41, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

		FR05 -12	FR05 -14	FR05 -15	FR05 -16	FR05 -18	FR05 -20	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	1200	1400	1500	1600	1800	2000	V
Maximum RMS voltage	V_{RMS}	840	980	1050	1120	1260	1400	V
Maximum DC blocking voltage	V_{DC}	1200	1400	1500	1600	1800	2000	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	0.5						A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load	I_{FSM}	30.0						A
Maximum instantaneous forward voltage @ 0.5 A	V_F	2.0						V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	I_R	5.0 100.0						μA
Maximum reverse recovery time (Note1)	t_{rr}	500						ns
Typical junction capacitance (Note2)	C_J	12						pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	55						$^\circ C/W$
Operating junction temperature range	T_J	-55 ---- + 125						$^\circ C$
Storage temperature range	T_{STG}	-55 ---- + 150						$^\circ C$

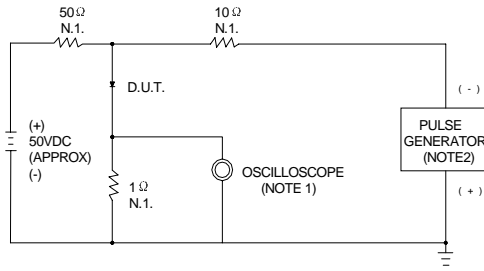
NOTE:1. Measured with $I_F=0.5A$, $I_R=1A$, $I_r=0.25A$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

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FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES:1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ, 22pF
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω

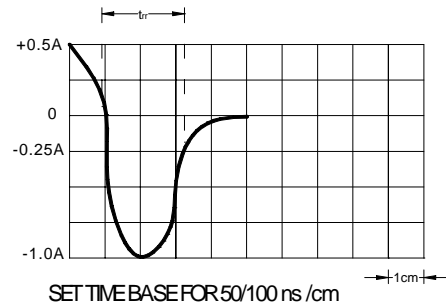


FIG.2 – FORWARD DERATING CURVE

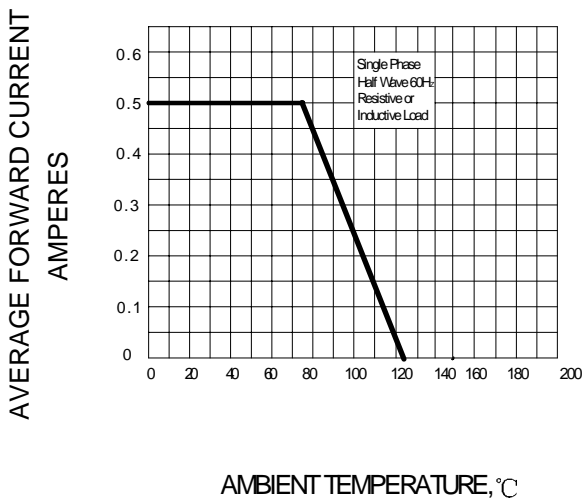


FIG.3 – PEAK FORWARD SURGE CURRENT

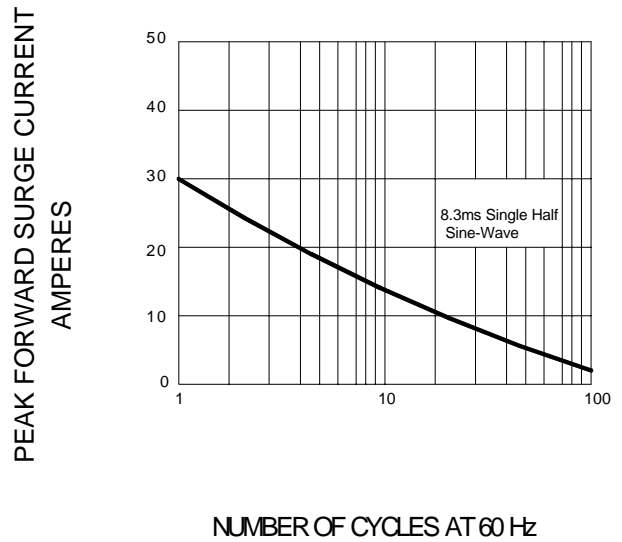


FIG.4 – TYPICAL FORWARD CHARACTERISTIC

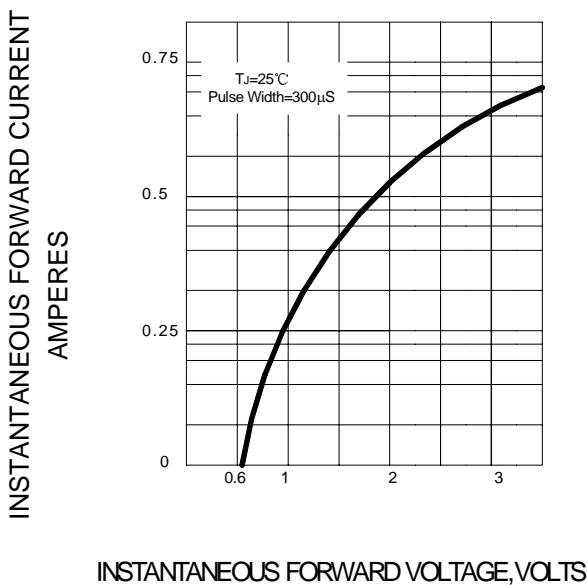


FIG.5 – TYPICAL JUNCTION CAPACITANCE

